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F. VOGEL

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capital, and 20 times as old as the United States. It already holds the Iberian Peninsula's principal naval station and is the port through which much Spanish-American trade flows.

Even to early Roman writers, Cádiz was "an ancient city." It was founded as a trading colony by the Phoenicians in 1100 B.C. It grew until Pliny, Roman historian, was moved to remark that the city would "one day sink into her own encircling waters from weight of the population."

With only 100,000 inhabitants today, the city manages to keep its feet dry. However, it is true that when the tide is going out barnacled walls and broken columns of a ruined Roman city become visible. As the water recedes even farther the arcaded market place of a Phoenician port appears beneath the Roman ruins.

Modern Cádiz ranks 24th among Spanish cities. White-walled, flat-roofed homes crowd the streets. Plazas provide breathing spaces and most of them are filled with the sounds, sights, and smells of open-air markets. Everything is hawked and haggled over in loud tones. To outsiders watching, it seems that each transaction is a personal triumph for the buyer, a calamity for the seller.

28 Million Kings—Spaniards as a whole are talkative, proud, impulsive, and independent. A philosopher once said of them: "It is difficult to govern a nation of 22 million kings"—and now there are 28 million!

Dress is important to the Spaniards; they have been known to sacrifice a meal for appearances. The women of La Viña, a section of Cádiz, take pride in their black outfits of two skirts, one of which they swing up around their heads to serve as a shawl.

Though homes may be old and cramped, each is whitewashed regularly to a gleaming finish, making the city "all whiteness and light." Townsmen call it *la tacita de plata* (the little silver cup) because of the dazzling look of white row houses, bright flowers, glazed balconies hung with colored cloth, and the blinding strand of salt fringing the bay.

The city still looks toward the sea as it did three centuries before Christ when its fish and preserved meats were loaded on Greek vessels bound for the banquet halls of Athens. In the 16th century A. D. gold-laden galleons from the New World poured their treasures into Spain through Cádiz. The *Torre del Vigia,* a lookout tower 100 feet high, has signalled generations of incoming ships, and from many a *mirador,* or housetop observation post, anxious eyes have scanned the water for returning vessels. Soon the watchers may see a new type of craft in their harbor—warships of the United States Navy.

References—Cádiz may be located on The National Geographic Society's maps of Western Europe, and Europe and the Near East. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also, in *The National Geographic Magazine* for April, 1950, "Speaking of Spain"; "Palette from Spain," March, 1936; and numerous other articles listed in the *Cumulative Index to the National Geographic Magazine* which may be found in school and public libraries. *(The most recent 12 back issues of The Magazine at any given time may be obtained at a specially discounted price of 50¢ a copy. Earlier issues sell for 65¢ a copy through 1946; $1.00, 1930-1945; $2.00, 1912-1929. Write for prices of issues prior to 1912.)*

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LUIS MARDEN

Pepper Pickers Pluck Stems—A Spanish family pitches in to remove stems from sweet peppers which are later dried and ground to fine powder. Such group work is common in Spain, with oranges, olives, or grapes often substituting for peppers.

Bulletin No. 1, October 19, 1953.

Cádiz May Become Base for U. S. Sea Power

THE NEW treaty between Spain and the United States may bring American sea power to the Gulf of Cádiz, the wide-mouthed inlet of the Atlantic Ocean from which Columbus sailed to discover the New World.

The Cádiz area, on the southwest coast of Spain, has been mentioned as one of the ports to be developed as a joint United States-Spanish naval base. In return for using this and other air and sea bases, the United States pledges Spain military and economic aid.

Cádiz is ancient—three or four times as old as Madrid, Spain's

The city grew up around that site and "the little rock" is now used as a railway bridge abutment.

Small-statured Bluff Dwellers were the first men known to have lived in what is now Arkansas. Scientists believe they were huddling in caves and under overhanging rock shelves before 500 A. D. Although they had no bows and arrows, they hunted with darts thrown from a grooved stick similar to the Aztec *atlatl*. They lived mainly by farming and fishing, but where they came from, or what happened to them, no one seems to know.

For 20th-century "Indians" who want to test their archery skill a Pine Bluff manufacturer can supply all the equipment.

Arkansas industries produce such commodities as chemicals, clocks, and ventilating fans. The State's forests supply lumber for its furniture factories and paper mills. Bauxite deposits furnish raw material for aluminum. From the seed of its cotton fields and from its numerous oil wells come oils for food, fuel, and lubricating.

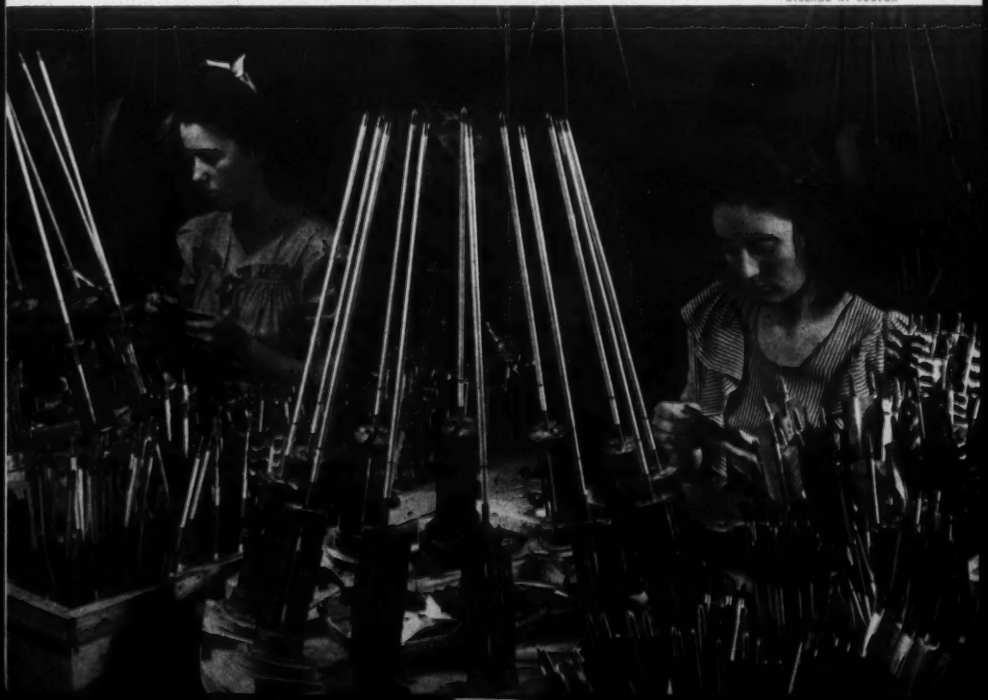
The biggest grape-producing area between Ohio and California, known as the "Little Italy of the Ozarks", is in the region around Tontitown. According to last reports there has never been a jail in the town because none was needed, nor has there been a single divorce.

References—Arkansas is shown on the Society's map of the South Central United States.

For additional information, see "Arkansas Rolls Up Its Sleeves," in *The National Geographic Magazine* for September, 1946; and "Land of a Million Smiles," May, 1943.

Fletching, or Feathering Arrows Is a Ticklish Job—These girls go through seven or eight carloads of brightly dyed turkey feathers each year in making arrows that meet rigid standards of weight, length, and balance. This Pine Bluff, Arkansas, archery plant also produces bows and targets.

WILLARD R. CULVER



Bulletin No. 2, October 19, 1953.

The Arkansas Traveler Has Settled Down

"SHE throws dirty dishwater down my chimney!" a Eureka Springs housewife angrily told the court. But to a friend at her front door she might say: "Come in. Let's go downstairs to the living room, and if you can stay all night the bedroom's on the floor below that."

This Arkansas community which grew up around its health-giving springs clings to the Ozark mountainsides like ivy to a brick wall. Some houses go stairstep-fashion up the slopes and have two or three floors at "ground level." Only those on the highest elevations are safe from the danger of things (including dishwater) dropping on them from above.

Retains Sense of Humor—Contrary to joke books, Arkansas people as a whole are well educated, friendly, and hard working. The Arkansas Traveler has settled down and become a prospering farmer, an industrial worker, or a town businessman. But he hasn't lost his sense of humor or his eye for publicity. The town of Waters renamed itself Pine Ridge after the fictitious hamlet of Lum and Abner's radio program.

The only diamond mine in North America operated for a number of years in Arkansas, producing decorative gems as well as industrial stones. The lowly river clam provides shells from which large quantities of disks are cut to be made into "pearl" buttons. Arkansas leads all other states in producing novaculite, used in making oilstones and whetstones.

Farming is still an important industry, but the vast cotton fields have given way largely to other crops. It is claimed that enough rice is raised in Arkansas "to feed the Chinese army." Peaches, strawberries, watermelons, and other fruits are grown in abundance.

In out-of-the-way regions some of the older folks still hold to superstitions handed down through the years. Not that they believe them —but why take chances? It's just as easy to put a bit of cotton in the sugar bowl to bring good luck, or lay shingles when the moon is right to prevent warping. And, of course, one never eats fried catfish and drinks sweet milk at the same meal!

World Comes to Hot Springs—Many mineral springs pour forth within the State's 53,104 square miles. Some areas are literally in hot water most of the time for there are numerous springs with temperatures ranging from 95 to 147 degrees. People from all over the world come to Hot Springs, the Nation's oldest reserve to become a national park, to soak away their troubles and ease their aching joints in the relaxing heat of the waters. Indians did the same in their day; rival warriors agreed not to fight while bathing.

When General Douglas MacArthur was born at the Army post in Little Rock on January 26, 1880, the State's population was only 802,525. Today it is nearly 2,000,000. MacArthur Park and a State Capitol made of Arkansas marble are among leading sight-seeing attractions in Little Rock, largest city, and most important business and industrial center. In 1722 Sieur Bernard de la Harpe mentioned *la petite roche*, a small rock standing in the Arkansas river near a Quapaw Indian settlement.

P. T. ETHERTON

Nepal Porters Make Light of Heavy Loads—A cheerful grin and a strong back are prized qualities of Nepal's famous mountain men who pack provisions for Himalaya mountain climbers. These human freighters carry burdens of 60 to 100 pounds at altitudes where the thin air makes the slightest exertion difficult for the ordinary person.

In recent years many Sherpa families have moved southeast across the border to Darjeeling, India, in the foothills of the Himalayas. They have established a small colony in this picturesque West Bengal city, the starting point for many mountain-climbing ventures.

Sherpas are Buddhists. They have a language of their own but many of them speak Tibetan. Their dress is much like that of the Tibetans. They wear coats of sheepskin, or of thick wool. Their boots are of sheepskin or felt, often elaborately embroidered. Hats with winglike flaps lined with fur protect their ears from the biting cold.

Many of the men wear their hair in long pigtails. These they sometimes lengthen by braiding in strands of coarse yak hair. Women usually wear aprons of gay colors, and sometimes spot small black patches on their foreheads, believing that this will prevent headaches.

Expedition leaders value, even more than their ability to carry heavy packs, the Sherpas' gaiety of spirit. Their even temperament and keen sense of humor make them easy to deal with. Their cheerfulness also helps sustain morale on long treks up icy slopes of Asia's mountains.

References—Mount Everest may be located on the Society's maps of China, India and Burma, and Southwest Asia.

See also "Nepal—A Naturalist's Paradise," in *The National Geographic Magazine* for January, 1950; "Nepal, the Sequestered Kingdom," March, 1935; "The Aërial Conquest of Everest," August, 1933; and in the GEOGRAPHIC SCHOOL BULLETINS, December 15, 1952, "Mount Everest Remains a Challenge"; "Mountain Naming and Renaming Make News," April 9, 1951; and "Nepal, Gurkha Land, Guards Doorway to India," December 11, 1950.

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Bulletin No. 3, October 19, 1953.

Sherpas Are Trained to Reach the Top

IT IS no accident that one of the two men in the world ever to stand on the storm-lashed summit of Mount Everest was a Sherpa. These tribesmen of Nepal live in a valley more than two miles above sea level. Conditioned to the rarefied air of the Himalayan highlands and accustomed to shouldering heavy loads in their normal trading with Tibetan villages, Sherpas have long been prized—both as porters and for know-how—by the leaders of mountain-climbing expeditions.

Such men as Sir John Hunt, leader of the British group that conquered Mt. Everest last May, place great reliance on their Sherpa bearers. They know that these hardy mountaineers have the world's best natural training for "reaching the top."

Brings Fame to Tribal Name—Tenzing Norkey, the Sherpa who brought fame to his people by scaling the earth's highest point with Sir Edmund Hillary, is only one of hundreds of valiant natives who have assisted expeditions in the past and will continue to do so in the future. Already several ascents of Everest and other near-by peaks—some still unclimbed—are scheduled for coming years.

For half a century Sherpas have served under British, Swiss, United States, Italian, French, Japanese, and Indian (Hindu) leaders. Unlike Swiss guides who lead parties up the rugged slopes of the Alps in Europe, the Sherpas, as their principal duty, carry provisions to great heights. Ordinarily, each porter carries 60 pounds, but he is able to pack 100 pounds or more, even over rough ground.

A Sherpa can put up tents, prepare meals, and do other camp chores. A single expedition may need 300 or more of these tribesmen. Their pay averages the equivalent of 45¢ a day. Those who carry packs to the higher slopes receive higher pay as "snow bonuses." Head porters like Tenzing Norkey are called "sirdars." They earn a little more than $1.00 a day. Those carrying above 25,600 feet are called "tigers."

Live near Everest—The tribe migrated from eastern Tibet to Nepal centuries ago, thus acquiring its name, which means "men from the east." Most Sherpas live in the Khumbu district, some 20 miles south of Everest and east of Katmandu, Nepal's capital. A narrow gorge connects their sky-high valley with southern Nepal. Impassable mountains shut it in on east and west. To the north lies the main Himalaya range with Everest and its sister peak, Makalu.

This towering mountain wall is broken at only one place. Nangpa Pass cuts through it at a height of 19,000 feet. Through this ice-encrusted gash in the steep barrier, Sherpas laden with packs of rice, cloth, and manufactured goods trek to Tingri Dzong, in Tibet. There they barter their wares for salt, wool, and yaks.

Namche Bazar, the chief Sherpa settlement, straddles a ridge in the shadow of Mt. Everest. The villagers live in two-storied houses of whitewashed stone. They grow grain and potatoes on the steep terraced slopes (illustration, back cover). Higher fields give them pasturage for their yaks, sheep, and goats.

across wide oceans. Before Lincoln became President, their day was waning. It was expensive to run them. They needed large crews, had little cargo space, and often were weakly constructed. They wrote but one brief page in the story of the United States Merchant Marine before they vanished forever. Even during their heyday the sturdy, more practical schooner was the mainstay of American seaborne commerce.

The schooner was born in Colonial times and still goes its handy, weatherly way as handsome yacht or able boat-of-all-work. The definition "schooner" applies to a vessel of any size that has two or more masts and carries a fore-and-aft rig. In such a rig, the sails are attached by their leading edges to the masts. This sets them parallel to the axis of the hull. On a square-rigger, sails bend to spars which cross the masts at right angles and hence lie naturally athwartship.

New England Claims Design—Gloucester, Massachusetts, claims invention and naming of the schooner rig. The South disputes the claim. Wherever they originated, early American schooners had to be speedy. Foreign ships dominated the seas, leaving to Yankee sailors mainly such unlawful trades as smuggling, slave running, and downright freebooting.

The schooner rig was so successful that from the Revolutionary War on it always far outnumbered the American square-rigger. Whether for fishing the Grand Banks of Newfoundland or chasing pirates for the Navy, schooners got the call. They were employed in seal hunting, and they carried most of the nation's coastwise cargoes. They traded on every ocean, but they did not win the fame the clippers attracted.

Steamships put the finish to the square-rigged successors to the clippers, but the schooners survived. It was not until the development of the internal combustion engine that they began to vanish.

Between the first and second world wars, the Gloucester and Nova Scotia sailing fleets disappeared one by one. Some boats were sold for the Caribbean trade, others were lost at sea and not replaced, and a number were converted to power.

The big three- and four-masted coastwise schooners, built in Maine shipyards—thrifty carriers of lumber and coal—would probably have vanished but for the shipping pinch that developed with World War II. Those still afloat were called back into active service on West Indies runs. Shipwreck, enemy action, and overwork killed the last of them before the peace treaty was signed.

Schooner's Speed an Asset to Sports—In the Western Hemisphere, the schooner survives mainly as a yacht. It does well in races against more modern sailing rigs. Some old, tired commercial schooners hang on in Chesapeake Bay, thanks to a Maryland law which decrees that oysters may be dredged only under sail.

Commercial schooners still sail in and out of West Indies ports. They count on a few more years before they, too, will be replaced by the diesel freighters that doomed most of their sister ships.

References—For further information, see "Down East Cruise," in *The National Geographic Magazine* for September, 1952; "I Sailed with Portugal's Captains Courageous," May, 1952; "Windjamming Around New England," August, 1950; "The *Yankee's* Wander-world," January, 1949; "Sailing with Sinbad's Sons," November, 1948; and "Last of the Cape Horners," May, 1948.

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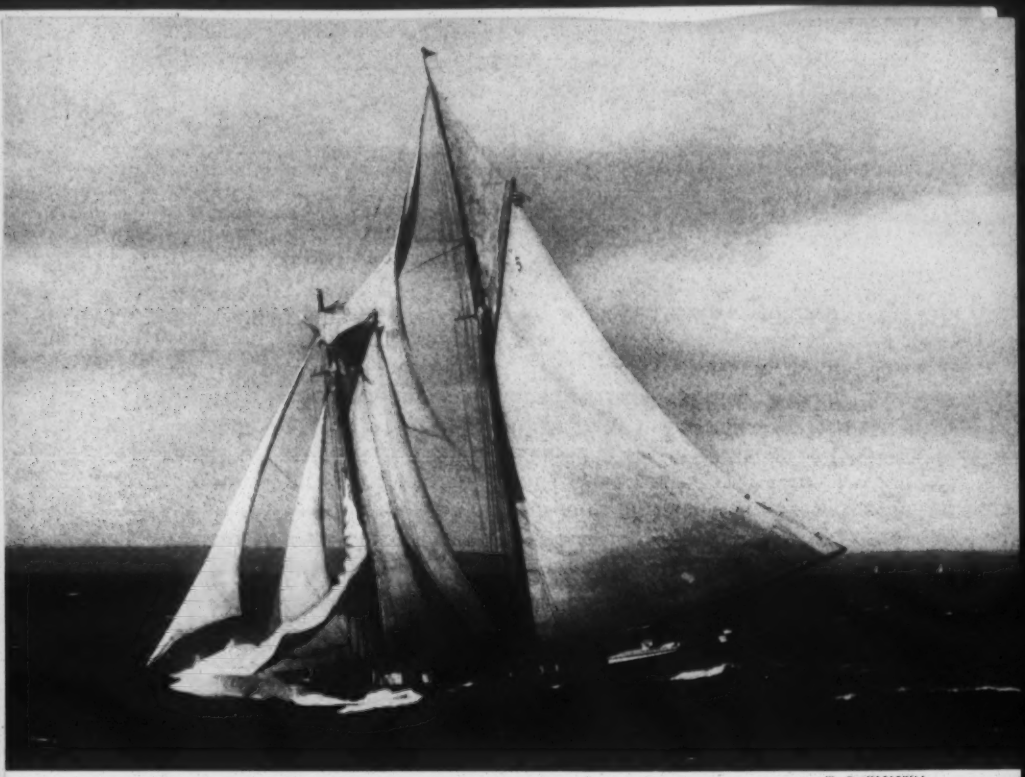


W. R. MACASKILL

***Elsie* Loses a Bit of Rigging**—The Gloucester fishing schooner *Elsie* probably represents the highest development of the working schooner in America, but here she is in trouble. In a race with the Nova Scotia schooner *Bluenose*, she lost her foretopmast and the race. A fast sailer, she had little but schooner rig in common with the big, clumsy three- and four-masters built to carry bulk cargoes. *Elsie* was lost at sea in the 1930's.

Bulletin No. 4, October 19, 1953.

Clippers Had Glamor, Schooners Did the Work

TODAY, when jet-propelled airplanes and the promise of atomic submarines make newspaper headlines and human beings fly with the speed of sound, the word "clipper" has been appropriated by speedy aircraft which slash hours off the schedules of long-distance flights.

A century and more ago the clipper was a swift, glamorous sailing ship which brought rice and spice, tea and teak from the Orient, transported eager gold seekers around Cape Horn to California, and rushed prospectors from the British Isles to Australia. The dictionary defines the word as "one that moves swiftly, or runs or scuds along."

The reign of the white-winged clippers which left American ports to return with exotic cargoes was ushered in after the War of 1812. Fast, slender privateers built in Baltimore during that conflict inspired their design. New England soon copied features of the "Baltimore Clipper."

The first ship of the type to invade the China Sea did so in the early 1830's, but it was not until close to mid-century that the graceful, square-rigged merchantmen began in numbers to make their spectacular passages

ing. Harbors are being enlarged and cleared. The island's mineral resources are being explored. Greenland already produces most of the world's supply of cryolite, a mineral vital to the production of aluminum, and there are known to be deposits of uranium, graphite, lead, and copper.

Greenland's first residents were Eskimos (illustration, cover) who migrated from North America more than 1,000 years ago. Eric the Red led a band of Norsemen from Europe to the treeless, wind-swept land in 982. He named the frigid island Greenland, hoping to entice more of his countrymen to settle there.

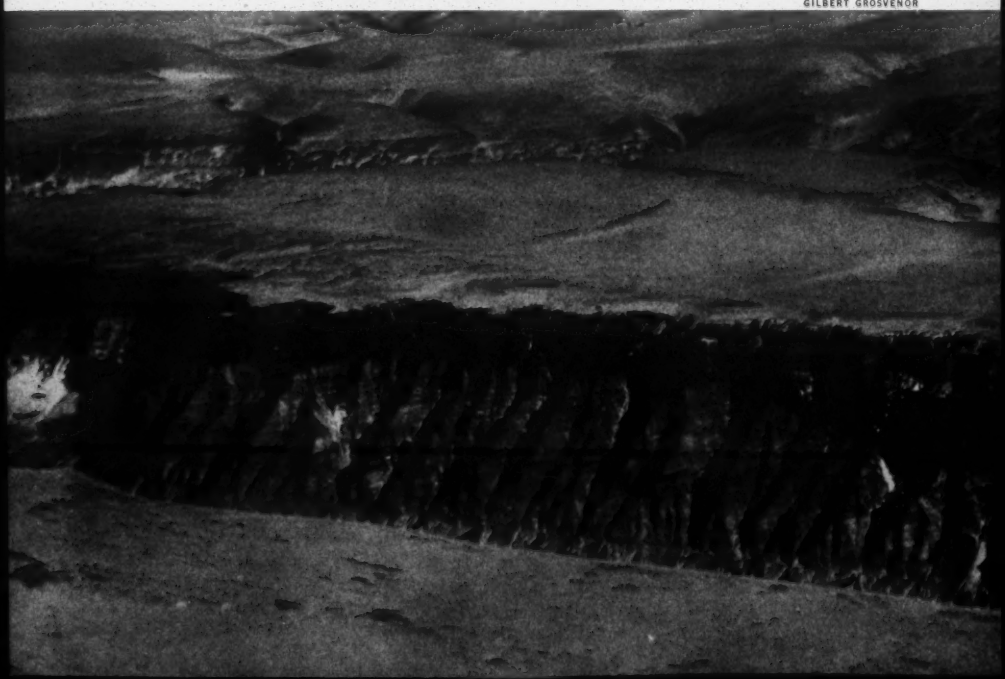
Eric was reasonably successful in his attempts but the colonies did not last. By the end of the 14th century Scandinavian settlements had nearly disappeared. Not until 1721 did another group of Europeans take root on this Arctic outpost. The new settlement was founded at Godthaab. Today the town is Greenland's capital, with a population of about 1,000.

References—Greenland may be located on The Society's map of Canada, Alaska & Greenland.

See also "We Followed Peary to the Pole," in *The National Geographic Magazine* for October, 1953; "Three Months on an Arctic Island," April, 1953; "Far North with 'Captain Mac'," October, 1951; "Milestones in my Arctic Journeys," October, 1949; "Americans Stand Guard in Greenland," October, 1946; "Servicing Arctic Airbases," May, 1946; "Greenland Turns to America," September, 1942; "Greenland from 1898 to Now," July, 1940; and, in the GEOGRAPHIC SCHOOL BULLETINS, January 12, 1953, "Arctic Air Route Cuts U. S.-to-Europe Trip"; and "U. S. Airmen Tread Peary's Polar Footprints," April 28, 1952.

Peary's Polar Trail as Seen from the Air—Crimsoned with lichen and crowned with a frosting of glittering snow and ice, the cliffs of Independence Fjord rise sheer from the sea on Greenland's northern coast. On his recent flight over the North Pole, Dr. Gilbert Grosvenor, President of the National Geographic Society and Editor of its Magazine, made this first known aerial photograph of the stupendous rock wall nearly 4,000 feet high. Peary discovered it on July 4, 1892, during his first hazardous trek across the Greenland ice cap, and named it Independence Bay.

GILBERT GROSVENOR



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Bulletin No. 5, October 19, 1953.

Denmark May Make Province of Greenland

GREENLAND, Denmark's only colony, hopes to graduate to the grown-up dignity of a province under a bill now before Parliament at Copenhagen in the mother country.

The world's largest and one of its coldest islands was a temporary home to many Americans during World War II. The North Atlantic outpost served as a vital aircraft ferry point and fueling stop for two-way plane traffic between the United States and Europe. American troops also built and manned weather stations. These and other facilities later were turned over to the Danish government, except for a few retained for stand-by use.

Only last year a huge new air base was completed at Thule (pronounced too-leh) far up on the northwest coast, only 935 miles from the North Pole. The project was sponsored jointly by the United States and Denmark under the North Atlantic Treaty.

Team Work of Army and Civilian Engineers—A group of United States Army Engineers, together with civilian workers and a huge collection of mechanical equipment, built the base during the continuous daylight of two summers. They worked the clock around, in three shifts.

Thule was the taking-off point last May for Dr. Gilbert Grosvenor, President of the National Geographic Society, when he flew over the North Pole in an Air Force plane making an inspection tour of northern bases (illustration, below). Accompanying him was Thomas McKnew, the Society's Secretary.

In November, 1952, the Scandinavian Airline System began experimental flights between Copenhagen, Denmark, and Los Angeles, California, via Thule and the "top of the world." Globe-ranging B-36's of the Strategic Air Command are due at Thule soon for the first large-scale polar training exercises in this area.

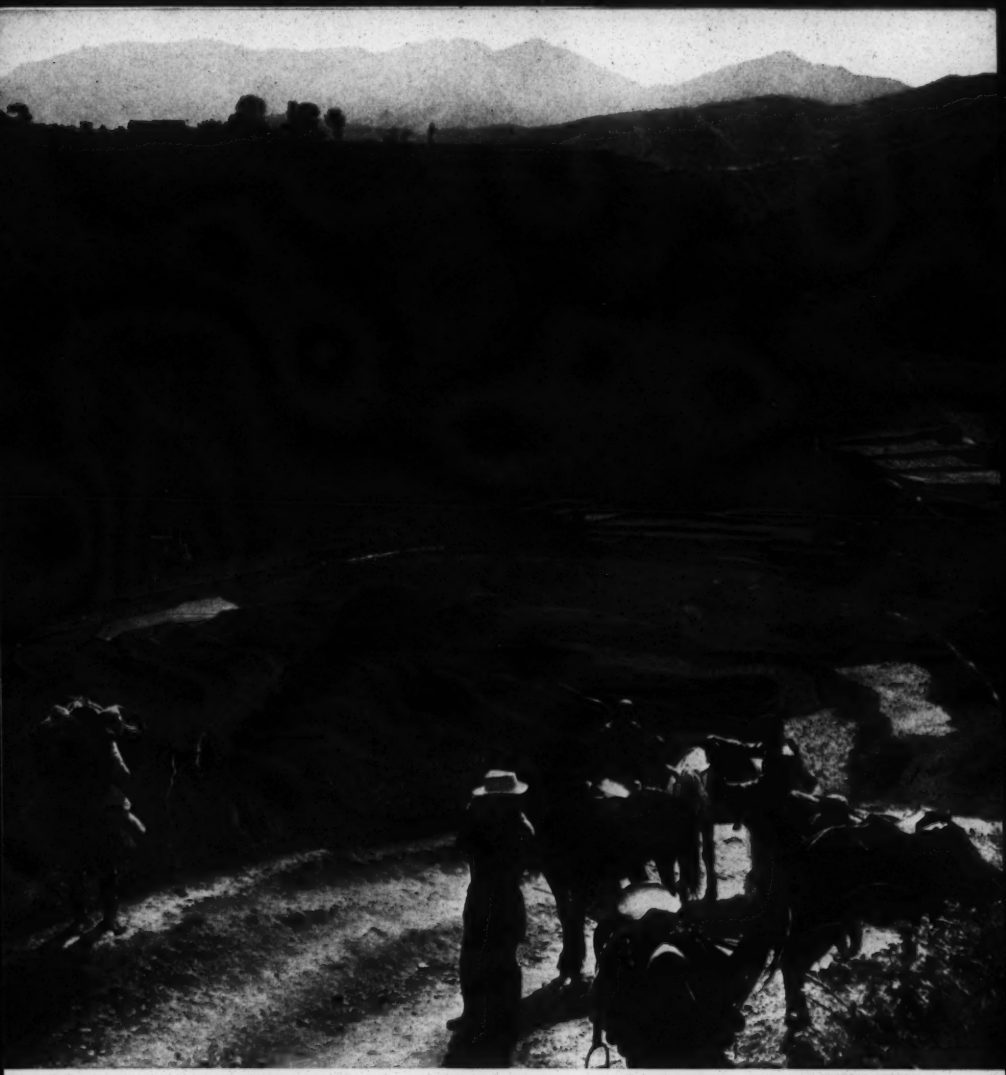
Although Greenland is one-fourth the size of the United States and 50 times the size of Denmark, its population is a mere 23,000. Most Greenlanders are of mixed Eskimo and Scandinavian descent.

Practically all the big island's settlements are on the coast—the greatest number concentrated at the southern end. Greenland's heart is an eternal ice cap, up to 8,000 feet thick, which blankets almost four-fifths of the colony's 827,300 square miles. Only a narrow fringe of land, from one to 150 miles wide, is free of ice. Glaciers flow down toward the raggedly indented coast and huge chunks, breaking off, drift as icebergs into the open sea.

Warming Waters Change Island Trades—The waters surrounding southern Greenland have become noticeably warmer in the last quarter of a century. With warmer weather and warmer seas, cod fishing and sheep raising have taken the place of seal hunting as the islanders' chief means of livelihood.

In 1951 Denmark began a $15,000,000 program aimed at making Greenland self-supporting in 15 years.

Canneries and quick-freezing plants are being built to encourage fish-



FRANCIS LEESON

Sahib Snaps a Picture; Porter (left) Stands Aside—Members of a National Geographic Society expedition pause on the trail above a terraced valley in Nepal (Bulletin No. 3). Travelers in this remote mountain land need two things: government permission, and native bearers to carry goods through roadless country. Here, in the foothills of the Himalayas, farmers raise grain, rice, and potatoes, their chief foods.

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